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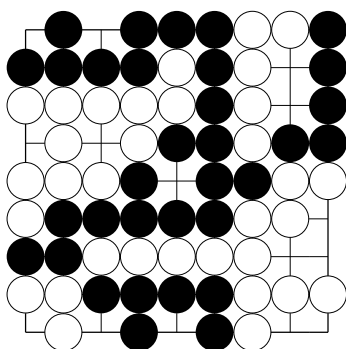
Introduction to Area Scoring

by Robert Jasiek

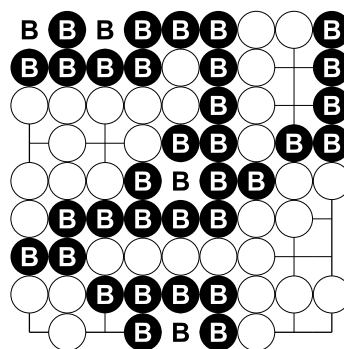
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Scoring

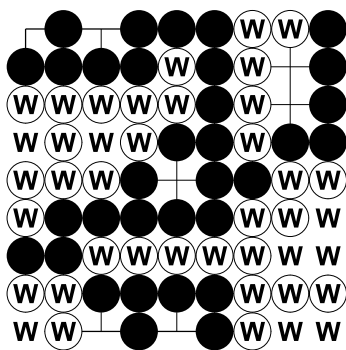
Area Scoring defines a player's score as *the number of his stones on the board and territory intersections*. A player's territory is the empty intersections surrounded by only his stones.



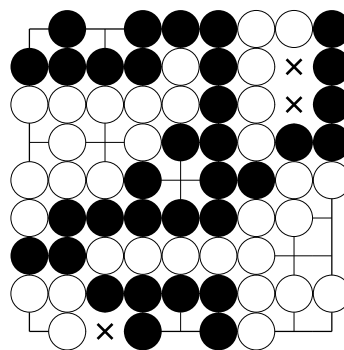
Example 1



Black's score = 37



White's score = 41



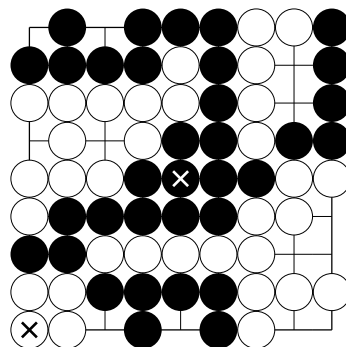
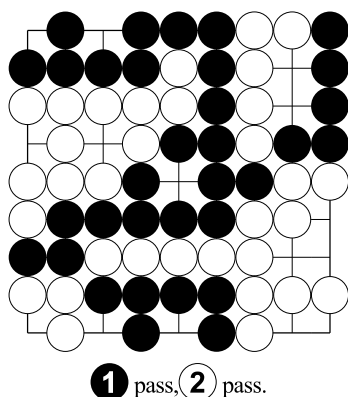
3 not scoring intersections

In example 1, the difference of Black's score minus White's score is $37 - 41$. White wins by 4 points. The 81 intersections of the 9x9 board are divided into 37 for Black, 41 for White, and 3 scoring for neither player.

Counting

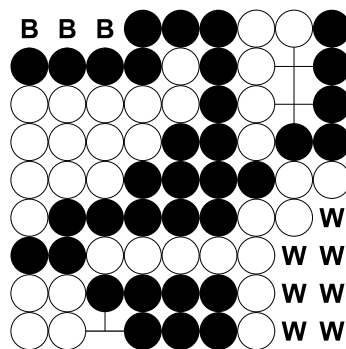
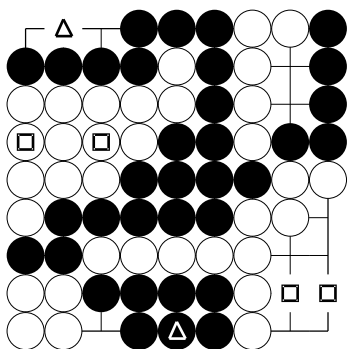
There are various possible mechanical procedures for counting the score. The one explained here is derived from *Japanese fill-in counting*, which calculates a player's territory and prisoner stones of opposing colour. Prisoners are filled into territory as far as possible.

To let Japanese fill-in counting determine the Area Score, prisoners made during the game are kept until the end, *a player pays for passing by taking one stone from his bowl and adding it to the prisoners*, and *White ends the alternating sequence of moves by making the last pass*. If at the end Black passes and then White passes, this lets White already make the last pass. If at the end White passes and then Black passes, then White makes an extra third pass in succession so that White does make the last pass and both players will have made an equal number of moves during the game. (Therefore in this document it is always White to make the last pass.)



The moves ending the alternation. When Black 1 passes, one black stone is added to the prisoners. When White 2 passes, one white stone is added to the prisoners.

Counting step 1: The prisoners are filled into territory.



Counting step 2: Stones are rearranged to allow for a more convenient counting afterwards.

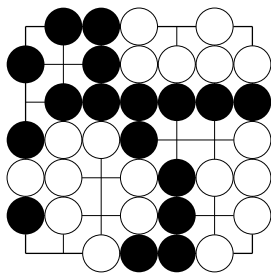
Counting step 3: Black has 3 points. White has 7 points. White wins by 4 points.

As can be seen in example 1, the Japanese fill-in counting together with pass stones and White passes last determines the correct score. (This works in all games.)

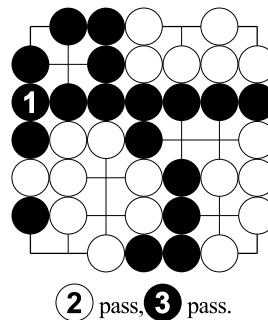
Game End

In simplistic rules, the alternate moving simply ends by successive passes. In practice, it is often allowed to have an agreement phase, in which the players may agree on the stones to be removed verbally. This offers two possibilities: either the players agree or they disagree.

Agreement

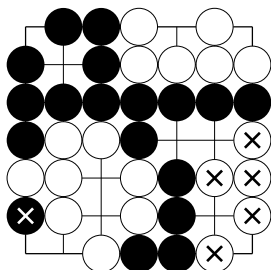


Example 2. Black to move. There are two black prisoner stones.

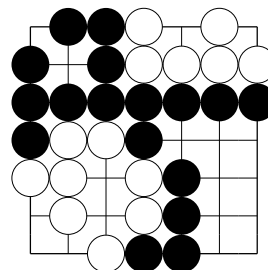


② pass, ③ pass.

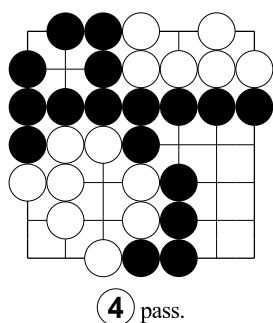
When White 2 passes, one white stone is added to the prisoners. When Black 3 passes, one black stone is added to the prisoners. Now there are three black prisoner stones and one white prisoner stone.



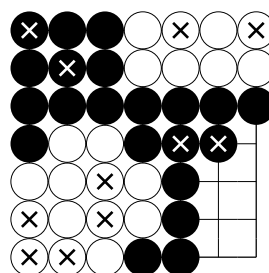
The players agree to remove the 1 black and 5 white marked stones.



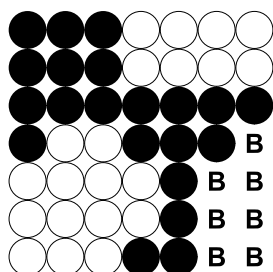
These stones are removed and added to the prisoners, making 4 black and 6 white prisoner stones.



White makes the final pass, adding one more white stone to the prisoners. Now there are 4 black and 7 white prisoner stones.

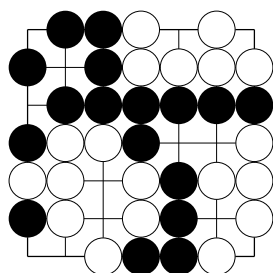


Counting step 1: The prisoners are filled into territory. (Further rearrangements are not necessary.)

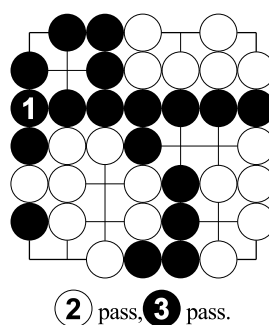


Counting step 2: Black has 7 points. White has 0 points. Black wins by 7 points.

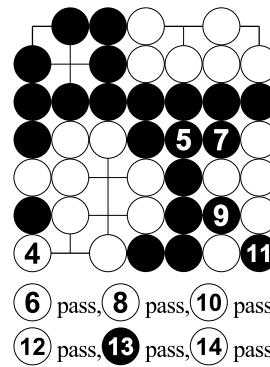
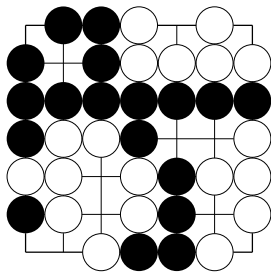
Disagreement



Example 2, variation. Black to move. There are two black prisoner stones.

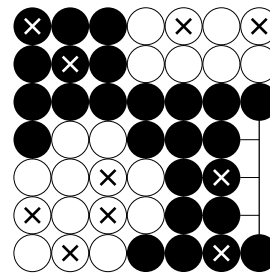
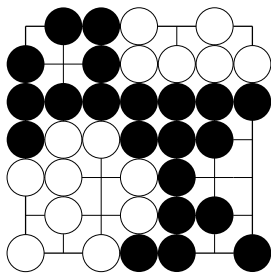


When White 2 passes, one white stone is added to the prisoners. When Black 3 passes, one black stone is added to the prisoners. Now there are three black prisoner stones and one white prisoner stone.



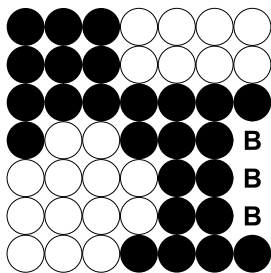
The players disagree about which stones to remove. Therefore they do not remove any stones by agreement. Instead they continue the alternate moves as follows and remove strings by approaching their liberties.

In the process, 1 black and 5 white stones are removed from the board. Black pays 1 stone for his pass while White pays 5 stones for his passes. White has to make the last pass.



Position just after the playout. There are 4 black and 10 white prisoner stones. (Recall that the initially 2 black prisoner stones are included.)

Counting step 1: The prisoners are filled into territory as far as possible. On this small board, not all prisoners can be filled in; there are 4 excess white prisoner stones.



Counting step 2: Black has 3 points on the board plus 4 points due to the excess white prisoner stones; altogether Black has 7 points. White has 0 points. Black wins by 7 points.

In example 2, the cases agreement and disagreement both determine the correct score 7.

Why the Playout Does Not Lose Points

When approaching liberties, one has to fill some of one's own empty intersections. Thereby every previously empty intersection being filled is converted into an intersection occupied by

one's stone. Since Area Scoring scores both territory intersections and stones on the board, the score is the same as if the final removals had been done by the players' agreement.

The final score is the same also when Japanese fill-in counting is used. If a player fills one of his empty intersections to approach a liberty and the opponent does likewise by filling one empty intersection of the opponent's territory, then each player loses one point and these losses cancel out each other. If a player fills one of his empty intersections and the opponent answers this by a pass, then the player loses one point by filling an otherwise empty intersection of his while the opponent loses one point by paying one prisoner stone for passing. Again the losses cancel out each other.

Purposes of the White Passes Last Rule

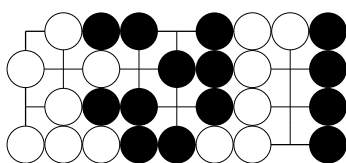
The White passes last rule has the following purposes: 1) It ensures that the Japanese fill-in counting always determines the Area Score (and not just an approximation plus or minus one point). 2) If, in case of a disagreement, things are solved by actually approaching the liberties of strings to be removed, then also Black's last play is compensated even if White does not answer it by a play but starts the final succession of passes. 3) A fight about who gets to make the last play on the board cannot affect the count of the score.

Strategy

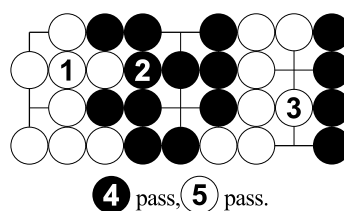
The major strategic differences to the Traditional Territory Scoring of Japanese or Korean style rules are shown.

Dame

Under Area Scoring, each filled dame is worth 1 point. Therefore it is recommended to fill as many of them during the alternate moving as possible. However, in a seki, not all dame can be filled - or the seki would be destroyed.



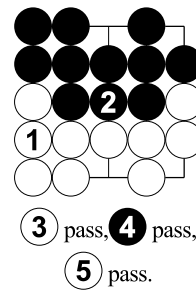
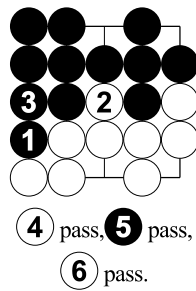
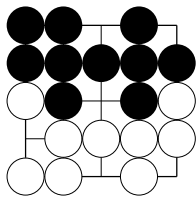
Example 3. White to move.



The players finish the alternate moving by playing the dame and teire as far as possible.

Last Endgame Ko - the Normal Case

In most games, the last endgame ko is worth 2 points, which is the difference between either player playing first. If there are ko threats, then the ko fight is about who gets these points by winning and connecting the ko. The opponent fills the first remaining dame.



Example 4

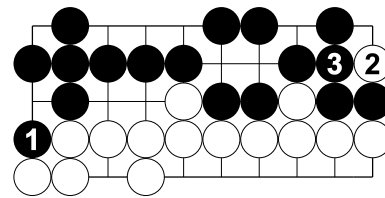
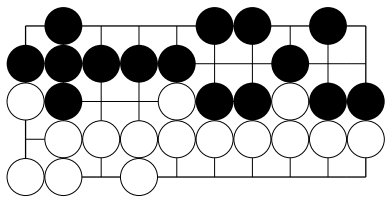
Variation Black to move: On the ko intersections and the remaining dame, the ko winner Black gets 1 point more than White.

Variation White to move: On the ko intersections and the remaining dame, the ko winner White gets 1 point more than Black.

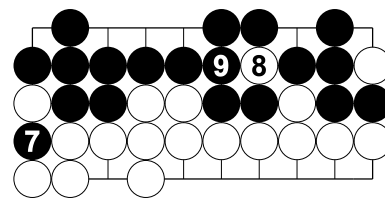
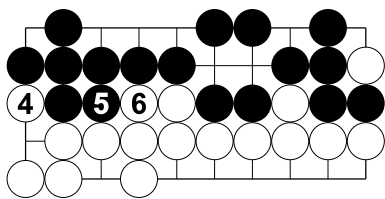
The difference between the two variations explains the 2 points value of the ko.

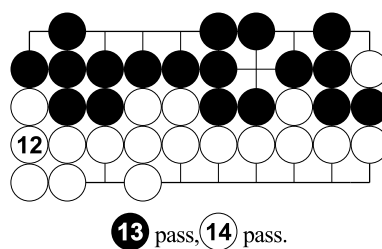
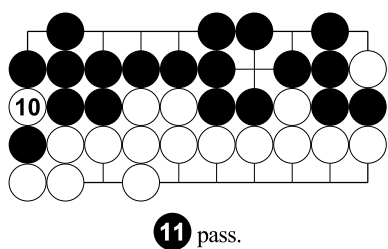
Last Endgame Ko - the Scarce Case

In a heavily one-sided ko threat environment, the last endgame ko is worth 4 points. For that, a player must be able to answer each dame played as a ko threat by also filling a dame.



Example 5. Black to move.

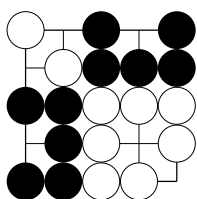




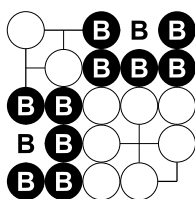
White can answer the ko threat 5 and still win the ko. Note that on bigger boards there tend to be a lot of more dame and so being able to answer all dame ko threats is rarer there.

Asymmetrical Sekis

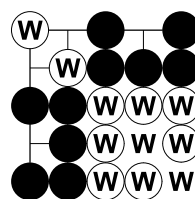
Territory in sekis scores. This is relevant especially in the scarce asymmetrical sekis. "Asymmetrical" means that, in a seki, one player encloses more territory intersections than the opponent does.



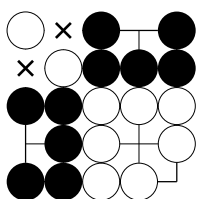
Example 6



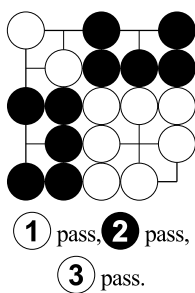
Black's 12 scoring intersections.



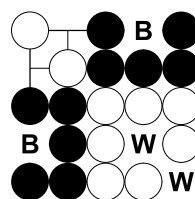
White's 11 scoring intersections.



2 not scoring intersections.



For reference, these were the last moves. White made the last pass and paid the last of the pass stones to become prisoners.

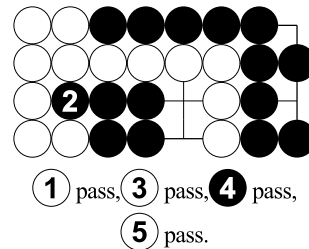
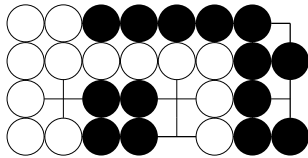


Using Japanese fill-in counting, these are the intersections counting for Black or White, respectively. Next, the prisoners are to be filled in.

In example 6, Black wins by 1 point.

One-sided Dame

"One-sided dame" should be occupied by only one of the players. Once occupied, they score for the player quite like each other stone on the board scores.

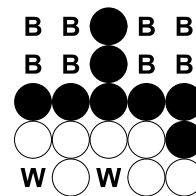
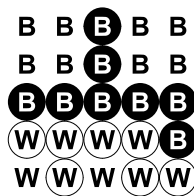
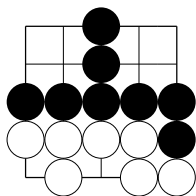


Example 7. White to move.

The last alternating moves. Black wins by 4 points.

Relation to Traditional Territory Scoring

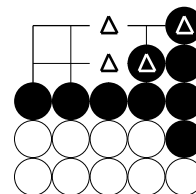
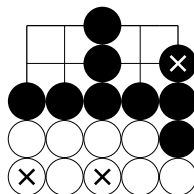
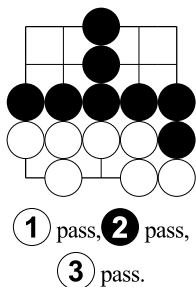
The Area Score can often be 1 point better for Black than the Traditional Territory Score. Fortunately, if the komi is 7.5, generally the winner is still the same.



Example 8. Komi = 7.5.

Area Scoring: Black has 16 points on the board. White has 9 points on the board. White wins by 0.5 points.

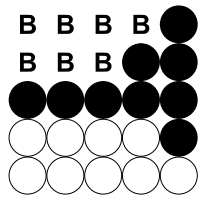
Traditional Territory Scoring: Black has 8 points on the board. White has 2 points on the board. White wins by 1.5 points.



These have been the last moves.

Area Scoring counting step 1: The prisoners are filled in.

Area Scoring counting step 2: Rearrangements.



Area Scoring counting step
 3: On the board, Black has 7
 points while White has 0
 points. Including komi,
 White wins by 0.5 points.

That the winner remains the same has practical consequences: In almost all cases, a positional judgement using a territory plus prisoners count is still useful. Hence, to assess a position, it is unnecessary to count all the stones on the board.